

What is Claimed is:

1. A method of modelling a network comprising operating said network as a neural network and executing a neural network modelling algorithm on said network,
5 whereby said network models its own response to a requested action.

2. A method according to claim 1, wherein said network comprises a plurality of network nodes and at least a subset of said nodes are each arranged to execute a neural network objective function.

3. A method according to claim 2, wherein each of said subset of network nodes is arranged to maintain an information vector.

4. A method according to claim 3, wherein said information vector is representative
15 of the state of one of the plurality of network nodes.

5. A method according to claim 3, wherein each of said subset of network nodes executes said neural network objective function using at least one of said information vectors as an operand.

6. A method according to claim 1, wherein a warning is issued if the modelled response to the requested action fails to conform to at least one predetermined criteria.

7. A method according to claim 1, wherein said requested action is not committed if
25 the modelled response to the requested action fails to conform to at least one predetermined criteria.

8. A method according to claim 1, wherein at least one subset of said network nodes are associated together and represented by a single node when said neural network
30 algorithm is executed.

9. A method according to claim 8, wherein said neural network modelling algorithm is executed on a sub-network of said network nodes, the sub-network being isomorphic to the network formed by said at least one subset of associated network nodes and remaining network nodes.

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10. A method according to claim 9, wherein the network nodes are associated together such that said resulting network is isomorphic to a predetermined sub-network of network nodes.

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11. A method according to claim 10, wherein said sub-network of network nodes is determined according to at least one network parameter.

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12. A network arranged to operate as a neural network and to execute a neural network modelling algorithm in response to a request to execute an action on said network, whereby the network models its own response to the requested action.

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13. A network according to claim 12, wherein said network comprises a plurality of network nodes and at least a subset of said nodes are each arranged to execute a neural network objective function.

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14. A network according to claim 13, wherein each of said subset of network nodes is arranged to maintain an information vector.

15. A network according to claim 14, wherein said information vector is representative of the state of one of the plurality of network nodes.

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16. A network according to claim 13, wherein at least one of said network nodes is arranged to generate a warning if the modelled response to the requested action does not conform to at least one predetermined criteria.

17. A network according to claim 12, wherein said requested action is not executed if the modelled response does not conform to at least one predetermined criteria.

18. A network according to claim 14, wherein at least one of said subset of network nodes is arranged to maintain an information vector representative of the state of a plurality of associated ones of said network nodes.

5 19. A network according to claim 18, wherein the plurality of associated network nodes are associated together such that the subset of network nodes maintaining said information vectors conforms to a predetermined topology.

10 20. A method of managing the allocation of tasks in a distributed network, the method comprising:

submitting a task allocation for execution by the network;

executing a distributed modelling algorithm on the network, the modelling algorithm being arranged to model the response of the distributed network itself to the submitted task allocation; and

15 determining if the modelled response is acceptable and if so allocating the submitted task to the network.

21. A method according to claim 21, wherein if said modelled response is not acceptable, modifying the submitted task allocation and repeating said method.

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22. A method of modelling the response of a network, the network comprising a plurality of interconnected data processors, the method comprising operating at least a portion of the plurality of data processors in accordance with a set of neural network algorithms in response to an input to the network to provide an output, the neural network algorithms being arranged such that the output is indicative of the expected response of the entire network to the input.

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23. A method of managing the operation of a distributed network of dataprocessors, the method comprising:

prior to the execution of a desired operation on the distributed network, assigning a plurality of neural network functions to at least a sub-set of the distributed
5 dataprocessors, the neural network functions being arranged such that the sub-set of distributed dataprocessors is operative to model the operation of the entire distributed network of dataprocessors;

modelling the operation of the distributed network in response to the desired operation on the sub-set of distributed dataprocessors; and

10 where the modelled response falls outside predetermined criteria, modifying the desired operation prior to execution of the modified operation on the distributed network of dataprocessors.

24. A network of dataprocessors comprises a plurality of interconnected
15 dataprocessors, each of a subset of the plurality of dataprocessors being arranged to execute at least one neural network function such that the subset of dataprocessors is operable to emulate the functionality of the plurality of dataprocessors.